



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,409	09/26/2001	Hiroshi Yasuda	514802001100	3794

25224 7590 10/20/2003
MORRISON & FOERSTER, LLP
555 WEST FIFTH STREET
SUITE 3500
LOS ANGELES, CA 90013-1024

EXAMINER

DANG, PHUC T

ART UNIT PAPER NUMBER

2818

DATE MAILED: 10/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/965,409		YASUDA ET AL.	
	Examiner		Art Unit	
	PHUC T DANG		2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on election filed on August 5, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,9,10 and 18 is/are rejected.
- 7) ☒ Claim(s) 2-8 and 11-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>0803</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2818

DETAILED ACTION

Election/Restrictions

1. Applicants' election without traverse of Group I (claims 1-18) drawn to a semiconductor device manufacturing system for manufacturing a semiconductor device on a wafer is acknowledged for prosecution in the subject application. Applicants have the right to file a divisional application covering the subject matter of the non-elected claims.

Oath/Declaration

2. The oath/declaration filed on September 26, 2001 is acceptable.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The office acknowledges receipt of the following items from the applicant:
Information Disclosure Statement (IDS) filed on April 9, 2002.

Specification

4. The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

5. Claim 10 is objected to because of the following informalities:

Art Unit: 2818

In claim 10, lines 6-7, the term "... plurality of electron beam..." should change to -- ... plurality of electron beams... --.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 10 and 18 are rejected under 35 U.S.C. 102 (b) as being anticipated by Muraki et al. (U.S. Patent No. 5,929,454).

With respect to claim 10, Muraki et al. discloses an electron beam exposure apparatus for exposing a wafer, in combination with exposure by an optical stepper, using a plurality of electron beams, comprising:

an exposure unit for exposing the wafer by irradiating the plurality of electron beams on the wafer, the plurality of electron beams having an interval of substantially N times or 1/N times, where N is a natural number, of a predetermined interval of the optical stepper for moving the wafer [col. 3, lines 35-57].

Art Unit: 2818

With respect to claim 18, Muraki et al. disclose the exposure unit has a plurality of detectors the deflect each beam of the plurality of electron beams independently; and the deflectors are separated with an interval of substantially N times or 1/N times of the predetermined interval [col. 18, lines 23-45].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa (U.S. Patent No. 5,965,308) in view of Muraki et al. (U.S. Patent No. 5,929,454).

With respect to claim 1, Ozawa discloses a semiconductor device manufacturing system for manufacturing a semiconductor device on a wafer, comprising:

a first exposure apparatus for exposing the wafer (16, Fig. 1) using a light source (1, Fig. 1) while moving the wafer (16, Fig. 1) with a predetermined interval [Fig. 1 and col. 2, lines 32-49].

Ozawa discloses all the features of the claimed invention as discussed above, but does not disclose a second exposure apparatus for exposing the wafer by irradiating a plurality of electron beams on the wafer, the plurality of electron beams having an interval of substantially N times or 1/N times, where N is a natural number, of the predetermined interval [col. 3, lines 35-57].

Art Unit: 2818

Muraki et al., however, disclose a second exposure apparatus for exposing the wafer by irradiating a plurality of electron beams on the wafer, the plurality of electron beams having an interval of substantially N times or 1/N times, where N is a natural number, of the predetermined interval.

It would have been obvious to one having ordinary skilled in the art at the time the invention was made to apply the teaching of Muraki et al to Ozawa such that the second exposure apparatus for exposing the wafer by irradiating a plurality of electron beams on the wafer for a purpose of detecting the objects more accurately.

With respect to claim 9, Muraki et al. disclose the second exposure apparatus has a plurality of detectors the deflect each beam of the plurality of electron beams independently; and the deflectors are separated with an interval of substantially N times or 1/N times of the predetermined interval [col. 18, lines 23-45].

It would have been obvious to one having ordinary skilled in the art at the time the invention was made to apply the teaching of Muraki et al to Ozawa such that the second exposure apparatus has a plurality of detectors the deflect each beam of the plurality of electron beams independently for a purpose of detecting the objects more accurately.

Allowable Subject Matter

8. Claims 2-8, and 11-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2818

Conclusion

9. **Examiner advised that Applicants should cancel the non-elected claim 19 upon response to the next Office action if the application would be considered in allowance condition.**

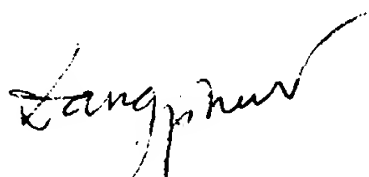
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuc T. Dang whose telephone number is 703-305-1080. The examiner can normally be reached on 8:00 am-5:00 pm.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on 703-308-4910. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-5841 for After Final communications.

12. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Phuc T. Dang

PD



Primary Examiner

Art Unit 2818

October 2, 2003